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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/993,213	Applicant(s) MANGAL ET AL.	
	Examiner Deepak Soni	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>Jul 16, 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

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Application/Control Number: 09/993213

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

2. Claims **1-7, 8-11, 15-19** are rejected under 35 U.S.C. 102 (e) as being anticipated by Eyuboglu et al. (U.S. 6,781,999). The Eyuboglu et al. reference teaches all of the limitations of the listed claims with reasoning that follows.

Regarding claim **1**, "a method comprising: maintaining, in a first network entity, a first record of multicast addresses, the first record comprising at least one multicast address" (is anticipated by the RNC maintains a list of membership 164 for each multicast group supported in the network, as spoken of on column 10, lines 48 - 50).

"maintaining, in a second network entity, a second record of cell sectors that are currently serving one or more mobile stations that are associated with at least one multicast address in the first record; and transmitting at least one multicast message to the cell sectors that are included in the second record; whereby the at least one multicast message is transmitted from each cell sector included in the second record to mobile stations within those cell sectors." (Is anticipated by the RNC were to know the identity of the Access Terminals in each multicast group, it could forward an incoming multicast packet only to

those sectors that have a member in that multicast group. This requires RNC to keep track of the position of Access Terminal. This is normally accomplished by requiring the AT's to send distance-based Route Update messages to update their location when they move too far away from the position of their last report. See column 10, lines 52 – 60).

Regarding claim 2, "providing each of the one or more mobile stations with a key that enables a mobile stations to receive and to further process multicast messages; and receiving and further processing, at the mobile stations that have been provided with a key, the at least one multicast message." (In terminal-initiated broadcast/multicast applications, a broadcast/multicast session is initiated by the Access Terminal. This triggers a transition to the Monitor State Where the AT will remain for the duration of the broadcast/multicast session. See column 5, lines 29 – 33.)

Regarding claim 3, "wherein the at least one multicast message is an IP message." (Is anticipated by When an IP packet with multicast destination address arrives at a multicast router 70, the router forwards it to all of its local interfaces that have at least one member in the multicast group represented by that address. See column 5, lines 40 – 43)

Regarding claim 4, "wherein at least one of the mobile stations in the multicast group is a 3G mobile station." (Is anticipated by IS-856 supports high-speed wireless Internet access, see column 1, line 27).

Regarding claim 5, " wherein the step of maintaining the second record comprises periodically querying cell sectors to determine the current location of mobile stations associated with multicast addresses that are included in the first record." (is anticipated by requiring the AT's to send distance-based Route Update messages to update their location

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when they move too far away from the position of their last report. see column 10, lines 57-60)

Regarding claim 6, "further comprising: sending, from a mobile station to a network entity, an indication that represents a user's request to join a multicast group," (Is anticipated by An access terminal joins a multicast group by sending a message to a multicast router. see column 1, line 67 and column 2 lines 1 and 2) "the indication being sent to a network entity;" (is anticipated by RNC. see column 10, line 49) "and using the indication to update the first record and the second record." (is anticipated by the RNC maintains a list of membership, see column 10, line 49).

Regarding claim 7, "wherein the first network entity is the second network entity." (is anticipated by the RNC maintains a list, see column 10, line 49)

Regarding claim 8, "In a network of the type comprising a packet-switched network " (is anticipated where IP Multicast allows the efficient delivery of IP datagrams 64 from server 62 to multiple hosts 68 over an IP network 66. See column 5, lines 38-40) "and a radio network having multiple cell sectors serving mobile stations, " (is anticipated RNC serves users from several Radio Node's 160, 162 (Fig 8) see column 10, line 41, 42) "a method comprising: maintaining, in a network entity, a first record of multicast address, the first record comprising at least one multicast address; maintaining, in the network entity, a second record of cell sectors that are currently serving one or more mobile stations that are associated with at least one multicast address in the first record; updating the second record as the one or more mobile stations move into and out of sectors; and transmitting at least one IP multicast message to only the cell sectors that are included in the second

record.” (is anticipated by If the RNC were to know the identity of the Access Terminals in each multicast group, it could forward an incoming multicast packet only to those sectors that have a member in that multicast group. This requires RNC to keep track of the position of Access Terminal. This is normally accomplished by requiring the AT's to send distance-based Route Update messages to update their location when they move too far away from the position of their last report, see column 10, lines 52 – 60).

Regarding claim 9, “ wherein updating the second record comprises periodically querying cell sectors to determine the current location of mobile stations that are associated with multicast addresses that are included in the first record.” (Is anticipated by requiring the AT's to send distance-based Route Update messages to update their location when they move too far away from the position of their last report. see column 10, lines 57-60)

Regarding claim 10, “further comprising: sending, from a mobile station to a network entity, an indication that represents a user's request to join a multicast group,” (Is anticipated by An access terminal joins a multicast group by sending a message to a multicast router. see column 1, line 67 and column 2 lines 1 and 2) “and using the indication to update the second record.” (Is anticipated by the RNC maintains a list of membership, see column 10, line 49).

Regarding claim 11, “ transmitting, from a network entity to each mobile station associated with a multicast address in the first record, a key that enables a mobile station to receive and further process multicast messages; (is anticipated by ATI Type, see column 3, line 65)

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"Whereby the at least one IP multicast is transmitted from each cell sector included in the second record to mobile stations within those cell sectors, and whereby mobile stations that have received the key receive and further process the at least one IP multicast message." (In terminal-initiated broadcast/multicast applications, a broadcast/multicast session is initiated by the Access Terminal. This triggers a transition to the Monitor State Where the AT will remain for the duration of the broadcast/multicast session. See column 5, lines 29 – 33.)

Regarding claim 15, "A wireless multicast system of the type comprising a radio access network and a packet-switched network, the system comprising:

a radio network multicast server, the radio network multicast server including a first record of multicast addresses, the first record comprising at least one multicast address;" (is anticipated by the RNC maintains a list of membership 164 for each multicast group supported in the network, as spoken of on column 10, lines 48 - 50).

"the radio network multicast server further including a second record of cell sectors that are currently serving one or more mobile stations that are associated with at least one multicast address in the first record, the second record linking cell sectors to specific multicast address in the first record; and

at least one mobile station that is served by a cell sector that is included in the second record in the radio network multicast server;

wherein at least one multicast message is transmitted to the at least one mobile station in accordance with the first record and the second record." (Is anticipated by the RNC were to know the identity of the Access Terminals in each multicast group, it could

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forward an incoming multicast packet only to those sectors that have a member in that multicast group. This requires RNC to keep track of the position of Access Terminal. This is normally accomplished by requiring the AT's to send distance-based Route Update messages to update their location when they move too far away from the position of their last report see column 10, lines 52 – 60).

Regarding claim 16, "further comprising a multicast application server communicatively coupled to the radio network multicast server;

Wherein the at least one multicast message is transmitted from the multicast application server." (is anticipated by Accordingly, the RNC needs to keep track of member lists 164 of each multicast group. In the current CDMA 2000 Packet Data Architecture, an easy way to accomplish this is for the RNC to get this information from the PDSN. (Here, we assume the PDSN is the multicast router. When the Home Agent is the multicast router group membership information has to be sent first from the Home Agent to the PDSN.) See column 11, lines 57 – 64)

Regarding claim 17, "wherein the at least one mobile station sends an indicator to a network entity, the indicator causing the radio network multicast server to add the at least one mobile station's cell sector to the second record." (In terminal-initiated broadcast/multicast applications, a broadcast/multicast session is initiated by the Access Terminal. This triggers a transition to the Monitor State Where the AT will remain for the duration of the broadcast/multicast session. See column 5, lines 29 – 33.)

Regarding claim 18, "further comprising a multicast session manager communicatively coupled with the at least one mobile station, the multicast session manager transmitting to

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the at least one mobile station a key that enable the at least one mobile station to receive and further process multicast message.” (Is anticipated by ATI Type, See column 3 line 65).

Regarding claim 19, “further comprising a AAA server communicatively coupled with the multicast session manager, the AAA server providing a multicast authorization status indicator associated with the at least one mobile station to the multicast session manager;

Wherein the key is only transmitted to those mobile stations authorized by the AAA server to receive multicast message.” (Is anticipated by The Home Agent would obtain the information from the AAA server. See column 12, lines 34 and 35).

3. Claims 12 - 14, are rejected under 35 U.S.C. 102 (e) as being anticipated by Boivie et al. (U.S. 6625773). The Boivie et al. reference teaches all of the limitations of the listed claims with reasoning that follows.

Regarding claim 12, “A communication device for use in a communications network of the type comprising a radio network that includes at least one cell sector that serves mobile stations, the device comprising:

a processor;” (is anticipated The host system 16 comprises a processor 18, see column 7, line 30 and 31)

“a memory;” (is anticipated a memory 22 (e.g. RAM), see column 7, line 31)

“at least one multicast address stored in the memory;” (is anticipated a memory 22 (e.g. RAM), see column 7, line 31)

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"at least one cell sector identifier stored in the memory, the at least one cell sector identifier corresponding to a multicast address stored in the memory; and"(is anticipated a memory 22 (e.g. RAM), see column 7, line 31)

"a set of logic stored in the memory and executable by the processor to cause the device to forward multicast packets having a multicast address that is same as a stored multicast address to each cell sector that is identified by a cell sector identifier that corresponds to the stored multicast address." (is anticipated As is typical with systems such as this, the mass storage includes an operating system 38, a plurality of applications programs and communication protocols 40. see column 7, lines 43- 46).

Regarding claim 13, " further comprising:

a network interface; and

a set of logic stored in memory and executable by the processor to cause the device to communicate with other entities via the network interface and to responsively update the at least one multicast address stored in the memory and to update any cell sector identifiers stored in the memory that correspond to the at least one multicast address."

(is anticipated by Thus in accordance with one embodiment of the invention, the general purpose computing apparatus can be programmed via a set of diskettes, CD ROM or over a network to operate in accordance with protocol set forth herein. Alternatively special purpose apparatus can be designed to implement the functionality of the invention. See column 7, lines 47- 53).

Regarding claim 14, "A radio network multicast server, comprising:

a processor;" (is anticipated by The host system 16 comprises a processor 18, see column 7, line 30 and 31)

"a memory;" (is anticipated by a memory 22 (e.g. RAM), see column 7, line 31)

"at least one multicast address stored in the memory;" (is anticipated by a memory 22 (e.g. RAM), see column 7, line 31)

"at least one cell sector identifier stored in the memory, the at least one cell sector identifier corresponding to a multicast address stored in the memory;" (is anticipated by a memory 22 (e.g. RAM), see column 7, line 31)

"a set of logic stored in the memory and executable by the processor to cause the radio network multicast server to forward multicast packets having a multicast address that is the same as a stored multicast address to each cell sector that is identified by a cell sector identifier that corresponds to the stored multicast address;" (is anticipated by Thus in accordance with one embodiment of the invention, the general purpose computing apparatus can be programmed via a set of diskettes, CD ROM or over a network to operate in accordance with protocol set forth herein. Alternatively special purpose apparatus can be designed to implement the functionality of the invention. See column 7, lines 47- 53)

"a network interface; and

a set of logic stored in the memory and executable by the processor to cause the radio network multicast server to communicate with other entities via the network interface and to responsively update the at least one multicast address stored in the memory and to responsively update any cell sector identifiers stored in the memory that correspond

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to the at least one multicast address;" (is anticipated by Thus in accordance with one embodiment of the invention, the general purpose computing apparatus can be programmed via a set of diskettes, CD ROM or over a network to operate in accordance with protocol set forth herein. Alternatively special purpose apparatus can be designed to implement the functionality of the invention. See column 7, lines 47- 53)

"Wherein the radio network multicast server transmits messages to cell sectors according to the cell sector identifier stored in the memory." (is anticipated by Eyuboglu et al. (U.S. 6,781,999) RNC serves users from several Radio Node's 160,162 (Fig8) see column 10, lines 41and 42).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eeyuboglu et al. (U.S. 6,781,999) as well as Boivie et al. (U.S. 6,625,773) are references that contain material pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deepak Soni whose telephone number is 571-272-2816. The examiner can normally be reached on 9:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DS 8/2/05
Deepak Soni
Examiner
Art Unit 2666

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